

<i>Items:</i>	<i>Tech Time in Minutes</i>	<i>Est. Down Time in Minutes</i>
50 amp Correctors	971	468
60 amp Correctors	60	0
150 amp Iq Suncraft	212	609
150 amp IR Suncraft	50	0
300 amp IR Suncraft	20	109
Dynapower	453	814
Gamma-T	225	165
Housekeeping Power Supplies (HKPS)	N/A	N/A
Ice Team Reports	190	0
Main Power Supplies, Building 1004B	1171	1633
Quench Protection Assemblies (QPA's)	465	361
6KA Quench Switches, Building 1010A	692	190
UPS Battery Replacement	N/A	N/A
Sextupole, Bruker Supplies	235	333
Snake and Spin Rotators Power 10	80	473
Maintenance Records & Miscellaneous	5700	6546
Total Minutes:	10524	11701
Total Hours:	175.4	195.02
Total Days:	7.31	8.13

Date	Time In	Ident	SN#	New S/N	Alt/rev	Rack	Initial Analysis Performed	Final Cause	Fault ID	Max Time in Service	Exit Date	Time in Use
3-Dec	10:20:10	h7-2-003			1A	1	Tripped, reset to will monitor for now.	Reset	Error	0		Non-Physics
8-Dec	16:40:00	h7-2-003	136	650	7C	4	Will not go into standby in remote.	ahn 136 Replaced defective OPTO-404, standby command on the rear panel digital board. (Comment: Team: DSWT Data control)	Error	55		Non-Physics
9-Dec	16:13:05	y01-0-14	298	309	110	6	History: would fit on Standby Error several times. AX on Dec 7 and 2X on Dec 8. Put on the list, opportunity allowed for replacement on Dec 9.	ahn 298 Replaced C823 in the Under Voltage lockout circuit located within the MCRPS, part of the IC605 circuit. (See Tech report 4.26.04. Replaced R55 & C38 of the FGCS Board, cleaned the current sensor head and mating pins, added 1K resistor to IC736 (pin 1 to pin 8 (v-fault)) and disabled the Under Voltage circuit as per current method (R. Kurz)	Error	60		Non-Physics
11-Dec	0:44:29	y02-0-14			3A	6	MCR RHC corrector power supply y02-0-14 tripped and was reset remotely. Snapshot indicated AC Power. Standby. Remote. However, the plot indicates that the supply had gone to the CR plate. There is a question as to the date at the top of the PS Plot as to which is correct. Don Bruno to look into further with Controls.	Reset	Error	0		Non-Physics
12-Dec	6:52:20	h4-0-4			5A	5	Tripped on error signal (40) during the following times (05:38:25, 06:02:22, 06:10:55 and 06:52:20. Had gone to CR (1A) at 05:38:57 not because of a error fault but because it was told to do so from an operator.) Don had MCR cycle the unit to off after the 06:52:20 error flag and now it has been running ever since.	Ref to 2-Jan @ 16:25:09	Error	0		Non-Physics
13-Dec	13:24:58	h4-0-0-11	87	665	11A	5	Tripped on error signal (50) during the following times (08:23:03, 08:35:51, 10:58:57, 12:07:47, 12:07:53 and finally no longer able to reset at 13:24:58) MCR notified Power Supply Group, supply has been investigated out.	ahn 87 has been modified by filling pin 5 of IC-605B from ground and putting it onto the junction of R609 and D605 (pin 2 off IC-605A. Part of the under-voltage circuit) Replaced	Error	75		Non-Physics
22-Dec	Manit	h3-0-8	983	856	3C	5	Tripped once on Dec 20 at 22:09:32 889 Error and continued multiple times on Dec 21 from 01:54:17 to 01:41:52. Possibly caused by the under-voltage circuit.	ahn 983 Ran line on the bench. MCRPS modified, out band on C005B pin 8 to IC603 out (+16v reg) installed 1.0uf cap between IC005B, pin 8 and ground bypassed. Ran overnight @ 20 amps then +/- 50 amps the following morning. Checks good 12:31:33	Error			Non-Physics
28-Dec	6:19:31	h8-0-0-1	245	126	9A	5	Don Bruno snapshot shows the current and voltage taking off on the initial trip which was an overtemp fault. The other trips after that also shows the current (and the v/f) taking off and then the p.s. trips on an error and DOCC (8:23:01, 6:33:26, 7:12:32, 7:29:43 into loop for sleep out. Later that evening, snapshot shows at 16:17:35, (overtemp, error signal.)	ahn 146 Shorted by-pass cap C501 on the converter board loaded down the +/-16 on the Haps taking down chassis, affecting all.	Overcurrent / Overvoltage			
28-Dec	10:06:59	y05-0-15	527	303	11B	2	Tripped off on an error signal fault twice at 10:08:59 & 10:12:40. D. Bruno sets MCR to attempt to turn on again, supply immediately trips upon trying to ramp the supply to its fullset output. At 12:14 P. Phil complains her work with the beam. Plans down for access in RHC to replace supply. 13:42: Machine setup resumes. CAS finishes.	ahn 527 Main Fuses F501 & F502 blown. Replaced and found no other problems. Checked various voltages, all well good. Ran overnight at 400 amps then all of the following day +/- 50 amps. Checks good 12:30:03	Error	85		Non-Physics
2-Jan	16:25:09	h4-0-4	487	245	5A	5	Tripped times at 16:25:09 error, 17:11:12 error, 17:27:26 error. CAS went into the manual to replace the supply as the next two overtempings at 18:22 and 19:03, show the supply had been placed into Local. (Log indicates the following 17:30 h4-0-4 ps tripped off. CAS tried to bring it on locally, but failed. Don Bruno was contacted, the advised CAS to replace the power supply. CAS crew will come to MCR for access keys. 19:00 h4-0-4 ps replace it.	ahn 487 Tech Paper Status: Ran over the night, next morning supply was still running, no faults. So, modified by filling pin 5 of IC-605B from ground and bypassing it onto the junction of R609 and D605 (pin 2 off IC-605A. Part of the under-voltage circuit) This has been done by the repair shop as the "Overvoltage Option"	Error	90	90	
12-Jan	10:35:00	h4-0-0-11	491	563	11B	1	This supply had tripped to Standby Error multiple times (Jan 11: 16:17:16, 16:18:58, 16:38:11, 16:52:41 and 16:52:04. On Jan 12: 05:20:23, 08:29:43, 08:41:03 and 08:48:48 before being replaced. Note: This new supply (SN 983) has been modified whereas the unfilled 21-ohm supply to IC-605B has been removed and replaced by the filtered / regulated circuit from IC-603, with the addition of a 1.0uf cap on pin 8 of IC-605B to Common. See Rich Kurz for documentation)	ahn 491 In Repair (Techs reported slight burn smell)	Error	83	83	
13-Jan	6:07:48	h4-0-0-00	525	87	11B	1	Supply tripped twice (6:47:17 and 08:07:48 on a Standby Error.) Will continue to monitor for now as MCR Tech made no complaints. (Tripped again at 10:24:42 and 11:55:37 as MCR request to replace during Mani at 1000 hours) Note, installed during Jan 13 Mani. ahn 507 has been modified by filling pin 5 of IC-605B from ground and putting it onto the junction of R609 and D605 (pin 2 off IC-605A. Part of the under-voltage circuit) Replaced	ahn 525 has been modified whereas the unfilled 21-ohm supply to IC-605B has been removed and replaced by the filtered / regulated circuit from IC-603, with the addition of a 1.0uf cap on pin 8 of IC-605B to Common. (See Rich Kurz for documentation)	Error	75	Manit	
27-Jan	Manit	y01-0-18	949	825	1B	3	Tripped to standby error - Overvoltage Fault 4X during the early morning shift according to Snapshot at the following times of 1:15:00, 1:22:35, 1:25:42 and 1:31:00 before MCR turned around. They decided to wait until morning before power going out.	ahn 549 No current feedback as a result of a burnt trace from L3 / R34 junction to the feedback coil of the current sensor board. R30 had overheated, causing the damage. (Note: Engineering resulted in changing R30 to a 100W, 1% and C38 to a 0.47uF, reducing the current through this filter.	Overvoltage	50	Manit	
29-Jan	4:14:34	h9-0-2			9C	1	MCR: A physics store was subsequently established, but was aborted due to a beam loss monitor permit interlock caused by the trip of the job-2 power supply. The supply was immediately turned on again, and we prepared for a new 10. After filing, a new physics store was achieved and continues as of the end of the shift.	Reset	Over Temp	0		
30-Jan	7:53:15	h9-0-2	323	487	9C	1	Second trip to Off this Run on Overtemp, supply was running at 30.2amps at the time of the failure. MCR was able to reset. Later that day, a brief Maintenance by MCR at 1300. Team replaced supply and returned for repairs.	ahn 323 Shaker Test Station found wire harness chaffed by the Hach Choke causing the 18 volts to ground, changing the 15ohm and finally the 2.5v ref (Chain Reaction) This was repaired but further testing showed all H9PS voltages were low. Problem was traced to a broken wire on -250B causing the loss of one phase of the 200vac input to the MCRPS. (Further: 1) Replaced R55 & C38 on the FGCS card and cleaned pins to the sensor head. 2) Disabled the Under-voltage circuit. 3) did the 2.5 Reference Modification.)	Over Temp	60	Manit	
30-Jan	0:46:08	y7-0-3			7C	4	MCPS y7-0-3 tripped during steaming for PHENIX, causing loss monitors to pull the permit lock.	y7-0-3 ps tripped because of a real magnet quench. This happened at 00:46:04. The snapshot shows the voltage and current reading to the magnet quenching. The beam loss monitor y7-0-3 shows 150volts for about 3 seconds. Don Bruno	Overvoltage	0		
30-Jan	10:56:46	y01-0-12	435	21	1C	6	Tripped on the Over Temp and was unable to recover. Team waiting for MCR to clear so they can replace the power supply. Brief maintenance by MCR at 1300. Team went in to replace supply	ahn 435 Overtemp fault was due to a shorted capacitor C501 on the daughter board that loaded down the +/-16vdc from the housekeeping supply. After R55 and C38 on the FGCS was changed, 100m resistor to IC736 added, 1% PR (R55) and disabled the under-voltage circuit as per current method. (Don Bruno)	Over Temp			
30-Jan	10:56:46	y01-0-12	243	21	1C	6	Tripped on the Over Temp and was unable to recover. Team waiting for MCR to clear so they can replace the power supply. Brief maintenance by MCR at 1300. Team went in to replace supply	ahn 243 Tech Report: Found nothing wrong on the bench, so: 1) Replaced R55 & C38 of the FGCS Board, cleaned the current sensor head and mating pins, 2) added 1K resistor to IC736 (pin 1 to pin 8 (v-fault)) 3) disabled the Under Voltage circuit as per current method. 4) Modified the 2.5vdc circuit came up with an inCurrentRange Error because the support changed much too fast. This p.s. cannot track a support that changes this quickly. The p.s. did not trip to a STBY - ERROR state but the inCurrentRange Error did show up in snapshot. (Don Bruno)	Overvoltage			
30-Jan	1:10:08	y08-0-0			9A	3	01:10:08 y08-0-0 ps inCurrentRange 1.057 Amps WARNING. 9a-02 A0-48-09inCurrentRange < range error	ahn 529 Tech report: +35uohf filter Cap C139, showed no problem. Replaced with C080B100K. Also did C700 mod and added hardware to IC501 & 509	inCurrentRange Error	0		
10-Feb	12:42:26	h4-0-0-11	195	669	7C	5	First trip on Feb at 23:44:15 then tripped again on standby error Feb 10 at 08:07:4. MCR able to reset, no action taken. Another trip later in the day at 12:42:26 and no reported past history of faults (once the user of FY04, supply is to be pulled and replaced when MCR allows. MCR declines a one hour scheduled maintenance period, access at 2:15, replaced with ahn 659. Ran both positive and negative direction to the top end, looks good, handed back to MCR	ahn 195 In Repair	Error	60	Manit	
21-Feb	13:05:30	h1-0-0-19	529	447	1B	1	The MCR reports that B1-0-19 ps is tripping off and may have to be replaced. Waiting for confirmation from D. Bruno and access to the RHC allow. 12:01 B1-0-19 ps has tripped on an error fault 1 cannot turn it on and try it because there is a store going on but it does look like it should be swapped out after looking at the snapshot. CAS has the procedure and is ready. Don Bruno 17:22 PHC is to come to replace B1-0-19 power supply. 17:50: CAS is contacting RHC to replace the B1-0-19 power supply.	ahn 529 Tech report: +35uohf filter Cap C139, showed no problem. Replaced with C080B100K. Also did C700 mod and added hardware to IC501 & 509	Error			

Time Totals:	971	468
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Prepared by Gregory P. Heppner

Date	Time In	I-det	SN	Stop	Q/I Ref	Initial Analysis Performed	Final Cause	Fault ID	Each Time in minutes	Link Down Time in min.
3-May	9:30:00	h07-qf2	72	101.0A	PR-203	Supply did not trip but under observation, the hnf had probed downward causing the current to follow. Tap checked current neg card and saw hnf jump slightly so we replaced the Current Neg card as there had been some down time due to a connector problem. Needed to bring the link down in order to swap card.	Current Regulator Fault , Runners Sequence to (pin 6A connector) to the K7 relay (pin 1) had an internal broken trace within the board. Pin test caused problem to become fatal as a wire was soldered external to repair. Tested link returned to spares.	HighRateRangeError	50	(Time allowed / Others with problems)
7-May	16:28:12	h07-qf2		101.0A	PR-210	Blue quench link trip was caused by 8u-gf1 quench detector. The quench detector tripped because of a sudden jump in current on h07-qf2 ps. The reference jumped to full current and the power supply tried to follow. Quench	MCR reset, no further action taken	Quench	0	30
12-May	13:16:08	h07-qf2		101.0A	PR-214	Blue quench link trip was caused by 8u-gf1 quench detector. The quench detector tripped because the ref. for h07-qf2 ps jumped up to full current. The beam pulse required 400 nsec. before the quench link due to beam loss. There were two real suspect quenches at K7q1 and K4q1. There were high beam losses at K7-hnf.1 and K4-hnf.1. The beam loss was due to the p.o. sudden change in current. The fiber optic interface card should be replaced Quench	Replaced Fiber Optic card for h07-qf2 ps CI Repeater	Quench	15	25
								Time Totals:	65	55

Prepared by Gregory P. Hopper

Date	Time In	Event	SW when replaced	Bldg	QLI Ref.	Initial Analysis Performed	Final Cause	Fault ID	Quench Time in minutes	Link Down Time in min.
4-Dec	10:24:56	b2-dhr		1002		Ref stuck while ramping then shot upwards to 718amps. Voltage rise went to the rail causing the quench. Current Regulator card was swapped out and later it was found to be the K2 relay that faulty contacts. Early same day at 12:17:36. Blue quench link trip caused by 2b-qft quench detector. The quench detector tripped because of multiple b2-dhr ps current glitches.	Current Reg Card Internal 3 channel Isolation Amplifier Board	Quench		Non-Physics
8-Dec	14:13:56	b2-dhr		1002		14-dhr problem with b2-d ps recovering from quench - ops trying to revive it. Linka. Looking at Tape Log, this supply stopped recovery with a standby error. Nothing on our end. Contacts looked like the problem. FALREADER indicated at 15:25:03 a release of the 2b-psd by controls as they suspected memory problem and will monitor.	FEC Release (b6-2b-psd)	Quench		Non-Physics
9-Dec	14:26:17	b2-qft		1002		4b-ps1 quench event, power supply produced a DC Overcurrent. Quench fault MCR that is used during recovery program, supply would not. C&S investigated and found that all 115v on the cards of the control bucket was missing. They pulled one card at a time to see if a card had a shorted bypass cap. None found, they then checked the HPS fuses and found they were good. Tech called in for replacement.	No 115v on J434, found Transformer T402 of the Housekeeping Supply shorted, replaced transformer by borrowing it from another HOPS with a good Transformer pulled from another blown supply.	DC Overcurrent, Quench	90	267
18-Dec	4:27:26	b8-qft	980207	1008		Fall in water, preventing quench recovery. Turns out to be faulty Auxiliary Contactor that supplies the on signal to the control cart. Auxiliary contactor replaced by C&S.	Auxiliary Contactor replaced	Error	80	80
20-Dec	10:30:00	y0b-qft3		1010		Upon turn on y10-qft ps had an error fault. The ALUX contacts need to be replaced on the next maintenance day. Ganets (Note: On maintenance day, Jan 07, Techs replaced faulty auxiliary contactor).	Auxiliary Contactor replaced	Error		
21-Dec	5:18:44	y10-qft		1010		Failed to recover after quench recovery program was initiated from previous quench event (PR-002). Auxiliary contactor needs to be replaced during Jan 7 maintenance day.	Auxiliary Contactor replaced	Error		
1-Jan	20:44:40	b4t1-qft		1012		Blue quench link trip was caused by b4t1-qft ps when the ps. was being turned on. The ps. had an error fault. The Aux. contacts on this ps. need to be replaced. Ganets (Note: On maintenance day, Jan 07, Techs replaced faulty auxiliary contactor).	Ref to 8-Jan @ 6:03:00	Error		15
6-Jan	6:03:00	b4t1-qft		1012		The quench detector tripped because of a jump in the current signal in b12-dh-ps. There was not a real change in current signal because there was no change in magnet voltage as seen on the quench detector. There were changes in the voltage signal on the postmagnet pins but no corresponding change in magnet voltage. The problem looks like a buffer card problem. Ganets.	Auxiliary Contactor replaced	Error		10
7-Jan	20:46:52	b12-dh-X		1012	PR-005	The quench detector tripped because of a sudden decrease in the current signal in b12-dh-ps. There were changes in the voltage signal on the postmagnet pins and a small change in magnet voltage. There were no real magnet quenches. Ganets.	Ref to 20-Jan @ 14:39:00	Quench	0	28
15-Jan	18:31:12	b12-dh-X		1012	PR-038	Blue quench link trip was caused by b8-qft-ps when the ps. was being turned on. The ps. had an error fault. The Auxiliary contacts on this ps. need to be replaced. (Note: Ganets (Note: On maintenance day, Jan 21, Techs replaced faulty auxiliary contactor).	Auxiliary Contactor replaced	Error	0	29
18-Jan	4:29:36	b8-qft		1010	PR-040	Blue quench link trip was caused by b8-qft-ps when the ps. was being turned on. The ps. had an error fault. The Auxiliary contacts on this ps. need to be replaced. (Note: Ganets (Note: On maintenance day, Jan 21, Techs replaced faulty auxiliary contactor).	Auxiliary Contactor replaced	Error	0	2
17-Jan	16:51:04	b4t10-qft		1010	PR-043	The quench detector tripped because of a sudden decrease in the current signal in b12-dh-ps. There were changes in the voltage signal on the postmagnet pins and a small change in magnet voltage. This cause the B112DH and the B122DH fuses (all 4) to be fine, Real magnet Quench in 2.	Unreplaced	Quench	0	18
20-Jan	14:39:00	b12-dh-X		1012	PR-046, 047	Blue quench link trip was caused by b8-qft-ps when the ps. was being turned on. The ps. had an error fault. The Auxiliary contacts on this ps. need to be replaced. (Note: Ganets (Note: On maintenance day, Jan 21, Techs replaced faulty auxiliary contactor).	Internal 3 channel Isolation Amplifier Board	Quench	Repaired during Maint	31
28-Jan	0:14:18	y12-qft		1012	PR-061	ReadAlarmLog...y12-qft No PS / Illegal State. Yellow quench link trip was caused by 12-qft ps going to the off state. This is the first time I have seen this type of fault this run. Ganets (Previous to fault Loss of AC Power and will be checked during the next maintenance day. Negrosal).	Read on Feb 4. Description checked all AC power connections from the disconnect on the west to the main breaker inside the cavity. Techs checked AC connections from that point to the housekeeping supply were correct. had been removed and reconnected. checked DC bucket connections on backside and found all to be in good shape.	No PS / Illegal State	0	29
1-Feb	23:25:40	b4t5-qft		1004	PR-067	Blue quench link trip was caused by b4t5-qft ps when the ps. was being turned on. The ps. had an error fault. The Auxiliary contacts on this ps. need to be replaced. (Note: Ganets (Note: On maintenance day, Jan 21, Techs replaced faulty auxiliary contactor).	Standby-Error	0	14	
4-Feb	Maint	Bldg 1012		1012	N/A	During Scheduled maintenance, the Auxiliary Contactor had been replaced for the following power supplies with an additional relay added to the same circuit: b12-dh0, y12-qft, y0t2-qft and y11-qft3. b12-dh-X only required the additional relay mod as the auxiliary contactor is only a two position type and did not require replacement at this time. (See Don Brown).	Preventative Maintenance	N/A	150	Maint
6-Feb	22:51:52	y0b-dh0		1010	PR-083	Yellow quench link trip was caused by y0b-dh0 ps or qps. The link tripped when the ps was being turned on. The alarm log showed no other fault but a quench fault. The ps did not go into the Off state. A possible cause could be problem with the cables between the ps and the qps. Ganets.	Unreplaced	Quench	0	63
11-Mar	9:15:36	y0-qft		1008	PR-127	REAM STUBBER in progress. Ramping of the IR Supplies. Y0-qft tripped on DC Overcurrent. Upon checking the Voltage Regulator card settings, found that the supply was set to 10v in Voltage. The Supply with wire cards had been replaced prior to the Physics Run and the DCCOC was not properly set.	Re-set the supply to trip at 205amps.	DOCC	15	35
25-Apr	20:53:35	b8-qft		1010	PR-191	I think this blue Quench Link Interlock was due to ps. b8-qft-ps trying to turn on and then tripping back to STBY again because of a problem with its aux contacts for ON status. We will get this on our maintenance list to be fixed. Don Brown.	Supply was Not turned on the next Quench Recovery Try.	Standby-Error	0	25
3-May	0:42:56	y0-qft		1008	PR-202	y8-qft ps housekeeping ps. fuses blew blowing down the yellow link. Don Brown.	HOPS Fuses	Local / NO PS Illegal State	138	168
4-May	2:16:39	b4t-qft		1004		The Nolas was called in and to replace the gas fan switches for b4t-qft-ps and y0t-qft-ps. There was a problem he investigated with b4t-qft-ps which went away on its own but he was still investigating this. The problem with b4t-qft-ps may have been a WBP problem because FEC 4b-ps1 was re-bonded at 2:15:59 and the problem went away after that. 4b-ps1 was re-bonded at 2:15:59 and b4t-qft-ps problem went away. Possible soln problem. Don Brown.	FEC Reboot (b6-4b-ps1)	Fat Fault	0	0
Time Totals:									483	814

Date	Time In	Idesc	Alarms	Rank	Initial Analysis Performed	Final Cause	Fault ID	Test Time in min	Est. Down Time in min
8-Dec	6:05:38	yo1-agg	SC	4	Power supply tripped to the OFF state while running at 10amps (Peak) for only 10 (10:05:38). Snapshot revealed that the supply successfully jumped at 21:28:53 and then tripped at 21:30:53 with the following status from the Supervisor (Crowbar-Stop Error)	Monitoring	Crowbar	N/A	Non-Physics
10-Dec	21:30:57	yo1-agg	SC	2	Tripped to the OFF state while sitting at Peak.	Monitoring	Crowbar	N/A	Non-Physics
15-Dec	1:21:08	yo1-agg	SC	4	Tripped to the OFF state while sitting at Peak.	Monitoring	Crowbar	N/A	Non-Physics
15-Dec	8:41:04	yo1-agg	SC	4	Tripped to the OFF state while sitting at Peak.	Monitoring	Crowbar	N/A	Non-Physics
17-Dec	Meant	yo1-agg	SC	4	Power supply would trip OFF. With the supply on, connections were moved, chassis tapped for vibration, could not cause supply to fail. Powered down, open unit and re-adjusted AC busbar bypass connection as they looked a little odd. Then reworked connections by removing, cleaning, re-torque and re-terminating. Tested open and still could not get unit to fail. Replaced all items and tested on, checked good.	Possible cold solder joint on the input fuse/busbar wires or slight contamination of the Busbar connectors.	N/A	90	Maintenance
17-Dec	11:06:50	yo1-agg	SC	4	Tripped to the OFF state while sitting at Peak.	Unexplained	Crowbar	N/A	Non-Physics
22-Dec	Meant	yo1-agg	SC	4	Replaced Control Card. Digital Isolator Card from the 3U Isolator and replaced the node card cable. Supply was running when team performed maintenance and discovered that the node card cable was loose at the node card (Gates).	Node Card Cable	Meant	N/A	Non-Physics
3-Jan	12:46:00	yo1-agg	SC	2	MCR: We encounter problems with one gamma quad. Isolation reports that the status of the gamma quad is correct. We work to remedy the problem again. 12:50:15. MCR: The quad is as correct the problem with the gamma quad. The quad must be swapped down to zero to have the polarity change. It appears that the quad did not swap down correctly and therefore, further testing had. After running two scripts that are referenced in and in the log, we are able to resolve the gamma quad. These scripts had been down the gamma quad to zero. Then, collection is made to ensure the gamma quad is to the normal and correct setting.	Understand with gamma-1 jump procedure	0	0	
6-Jan	17:29:05	yo1-agg	SC	4	Checking Snapshot and found that this supply had tripped to Standby. Cap Overvoltage, Crowbar. Inlet and Current at the time had been zero.	Unexplained	Cap OV / Crowbar	0	0
13-Jan	21:03:53	yo1-agg	SC	2	Tripped on Crowbar to Standby Error after a successful jump had occurred. A large voltage spike seen using TDS100 in the cause for the crowbar fault. (Note: This had occurred back on Dec 10 at 21:30:57 and no action was taken then. Possible loose connection on the Main 3U Isolator Board may be out of alignment as seen in the photo and needs to be repositioned.)	Unexplained	Crowbar	0	0
21-Jan	15:50:32	yo1-agg	SC	4	Checking all wires to make sure all supplies are good before we run a Hysteresis ramp to bring our supplies out from Maintenance. This supply was disconnected to have Cap OV and Crowbar fault. After extending several times, supply seemed to function normally. Will monitor for future trips.	Unexplained	Cap OV / Crowbar	0	Maint.
28-Jan	19:21:33	yo1-agg	SC	2	Snapshot indicates that the supply had been running at the current, not involved in a jump, when it just went to OFF. No complaints from MCR so no action required at this time.	Unexplained (see repair Ref to 28-Jan at 2:04:28)	OF	0	0
30-Jan	2:04:28	yo1-agg	SC	2	Tripped between prep and ramp and went unnotified, a large beam loss at transition resulted but the experiments have decided to keep the store after steering and collection were done. Physics running. Brief Maintenance at 1:50 to MCR, after extensive pooling and arena testing, the OFF switch on the Control Card seemed a bit sensitive. Replaced with a new control card. (Test at the shop showed nothing wrong. Possible the switch contacts had been slightly dirty and self cleaned by cycling.	Control Card	OF	45	Maint.
1-Feb	19:42:46	yo1-agg	SC	2	Snapshot indicates that the supply had been running at the current, not involved in a jump, when it decided to Crowbar. Barrow backs this up as the last time it was used for transition was at 19:05:05, then tripping at 19:42:46. It was then recovered with no problem and performed another transition at 20:56:16. No action required at this time.	During Maintenance on Feb 4, connections were checked at the back of the supply. Pulled out the Isolation Buffer Card from the main power chassis and rechecked connectors, vibration test and finally ran and performed a pos & neg jump. Could not find any problems at this time.	Crowbar	0	0
20-Feb	19:10:35	yo1-agg	SC	1A	Friday MCR: Time Logbook Feb 20 2004 19:10:35MCR: gamma-1 power supply yo1-agg tripped without a fault indication and was turned on again while a store. Upon investigating, found that on Feb 16, tripped off at 21:01:45, Feb 20 12:03:37, Feb 21 at 04:32:45 and 22:27:17 and Feb 22 at 11:05:14, all to the OFF state while running at the current.	See Mar 13 entry.	OF	0	0
20-Feb	21:35:00	yo1-agg	SC	2	21:35: The beam decay shut up presumably due to the yo1-agg supply. The test for this supply is 1:52 amps, and the readback is now 1:50 amps. (It had been 1.84 amps before it moved.) This supply did the same thing on February 16 during a new launch (2015). It appears that this supply tripped, that it should be moving to -1.8 from +1.8 at a random time during the store. I looked through the logs and it appears that the yo1-agg supply did the same motion from +1.8 to -1.8 amps during stores on the following dates: Feb 12 at 0029, Feb 10 at 0333, Jan 30 at 1850, Jan 19 at 1741, Jan 18 at 1442, Jan 18 at 0450, Jan 4 at 1156, Jan 4 at 0230, and 0450.	See Mar 13 entry.	Jumped without (open a command)	0	0
28-Feb	8:51:02	yo1-agg	SC	1A	Supply tripped to the OFF state while running at the current.	Ref to 1-Mar	OF	0	0
28-Feb	1:25:03	yo1-agg	SC	1A	Supply tripped to the OFF state while running at the current.	Ref to 1-Mar	OF	0	2
1-Mar	5:45:18	yo1-agg	SC	1A	Supply tripped to the OFF state while running at the current.	Maintenance March 3, 2004: Replaced Control card as no other faults were found.	OF	0	0
2-Mar	2:59:44	yo1-agg	SC	2	Tripped on Crowbar fault while running at the current. MCR reset.	Maintenance March 3, 2004: Crow found 200, pins 5 & 8 loose and would not seat properly within the connector housing. Replacement of the housing and new pins installed on 4 & 8. One of the original components was CROWBARING 4X, and then would seem to JUMP TRANSDUCERS on its own. Replacement of jump card showed that all new jump cards failed. (Problem in the manufacturing of the new jump cards was still under investigation at the time of this report but it appears that changes to the artwork had left some points unconnected.	Crowbar	0	0
5-Mar	15:35:53	yo1-agg	SC	1A	Tripped to the OFF state while sitting at the current. Last Maintenance, the Control card was replaced, this did not fix the pin mature trip to OFF.	See Mar 13 entry.	OF	0	0
8-Mar	8:45:00	yo1-agg	SC	4	MCR called to report that: yo1-agg ps is at the wrong polarity at the moment. It probably jumped from 2A to -2A. Johnson to talk to (R-32) John Minto, and we see that we got done for this. Also advised Don Brown of another one of these jumpers (Y01). The result is this is not all locked up. Perhaps the sign is ok, and the reading is wrong. Johnson: With Something is wrong with the MCR's in the dc-to-ps? These MCR's are not updating. Joe P is available to return dc-to-ps to the new file. One him a call when ready. I don't think yo1-agg ps jumped to its own after building a device and per page he with the pot being locked up I cannot be sure. We will watch this gamma-7. (See below) (yellow p)	MADC Fault (Control)	Jumped without (open a command?)	0	0
13-Mar	2:34:17	yo1-agg	SC	1A	Tripped to the OFF state.	Maintenance March 17: Checked connections, found cable (25 pin "D" connector) in the Power Chassis connected right but with the diagonal movement, supply would trip. Replaced connector end, tested and could not get the supply to trip.	OF	0	0
14-Mar	16:58:18	yo1-agg	SC	4	Tripped to the OFF state.	Maintenance March 17: Checked connections, node card both ends, wadded cards and replaced the Control Card.	Cap OV / Crowbar	0	0
15-Mar	9:33:43	yo1-agg	SC	4	Tripped on Crowbar Fault. While running like it appears the Cap voltage was given a command to decrease from 164 volts at 9:32:47 whereas it should have been 168 volts then it tripped off to the rail, tripping the supply at 9:33:43.	Unexplained	Cap OV / Crowbar	0	0
22-Mar	8:37:51	yo1-agg	SC	2	Worked Updater: Supply tripped on Crowbar while running at the current. Mar-21 at 22:17:45, Mar-21 at 22:38:52, Mar-22 at 05:41:58 and this morning, Mar-22 at 08:37:51 when MCR called. Investigation found that any slight touch to the chassis and the supply would trip. Narrowing down to the Current Regulator card. Type 7, seemed to be the cause as the ref would jump causing the current to shift, making the voltage spike to the rail. Crowbaring the unit.	Replaced the current regulator card then tried to repeat the fault but it would not. Give card to Tech to check.	Crowbar	45	45
22-Mar	12:44:35	yo1-agg	SC	1A	Snapshot reveals that the supply had tripped to the OFF state without a command telling it to do so. Supply was running at the current at the time. 12:51 MCR: Power supply yo1-agg tripped, which would be a new improvement to the Yellow Beam dump. The subsequent warning in both the Blue and Yellow dump occurred due to storage cavity problems. John Butler will investigate. We will also look at the new due to excessive discharges from and allow an access for PRENEX 391.	Unexplained	OF	0	0
23-Mar	14:15:08	yo1-agg	SC	1A	Snapshot shows that a beam command had been given when the supply was not properly away for the jump. High Voltage Cap was at zero and the supply was running near zero current.	Unexplained	OF	0	0
23-Mar	9:07:38	yo1-agg	SC	1A	Snapshot reveals that the supply had tripped to the OFF state without a command telling it to do so. Supply was running at the current at the time. (Another trip came a day, later that night to the OFF state at 21:17:37).	Will look at next maintenance	OF	0	0
25-Mar	8:32:18	yo1-agg	SC	4	Snapshot indicated the supply had tripped OFF, running at the current.	Will look at next maintenance	OF	0	0
26-Mar	14:10:05	yo1-agg	SC	1A	Tripped to the OFF state once again as per Snapshot, running at the current.	Will look at next maintenance	OF	0	0
29-Mar	1:06:35	yo1-agg	SC	1A	Seen on Snapshot, Supply would not jump to the negative 1.50 Amps setting. Approximately 37% of the beam is lost as the transition due to the beam not going negative. New Isolation Buffer card in the Main Power Chassis solved the problem. Testing of card successful. The experimenters are discussing if they want to use the beam. The yo1-agg supply report is being reviewed. Apparently when it is in the reg no problems found. Possible Card heating or heating up of a component on the card? Heat setting for one week.	Unjump	45	120	
Time Totals:								225	165

Date	Ref ID	Serial #	Alarm	Unit	Initial Symptoms/Description	Final Cause	Original Fault ID
2-Dec	y8-gf1 (link-out)	27	N/A	1006	Fuses found to be blown on original Haps located in y8-gf1 Dynapower 200 amp. (sn 980320). New Haps sn 027 installed and fuses would still blow. Replaced entire Dynapower for repair. NOTE: Haps sn 027 is rated for 120vac not 208vac, causing fuses on this spare unit to fail. Original Haps checked out good with new fuses (possible surge is what took them out) and was replaced into dynapower and checked good.	Not rated for 208vac input. Damaged Primary Transformer.	blown fuses upon ac power up
16-Dec	h8-gf2	108	N/A	1008	208vac fuses okay, no negative 15 volts output.	Shorted T442 Transformer	DC Overcurrent, Quench

Date	Time In	Ident	Part of	Sector	Initial Analysis Performed	Final Cause	Fault ID	Tech Time in minutes	Est. Down Time in min.
2-Dec	14:30:00	YC821	Trailer	8	New Temperature monitors indicated fail in temperature. Ice team investigated at the opportunity of a maintenance window of 3 hours. Found formation of ice. Boat fan not operational, replaced same.	Boat Fan Fail	Routine Check	120	Non-Physics
3-Dec	9:40:00	B9CHX	Trailer	8	Temperature levels low. Team investigated and found nothing out of the unusual. However, Wing replaced the B9 Terminator from 1 before to a 750 atm.	Investigation	Routine Check	70	Non-Physics
7-Jan	Moist	VB-1TTA	Temp Sensor	8	Replaced faulty temp sensor and changed data base to match new sensor.	Sensor failed	Wrong Temp Data	N/A	Moist
18-Feb	Moist	GS-2	Trailer	10	One fan was plugged in at sector 10 under snow magnets GS-2	Boat Fan Fail	Routine Check	105	Moist
							Time Totals:	195	0

Date	GLQ Time In	GLQ Pac	Label	Initial Analysis Performed	Final Cause	Fault ID	Estimated Tech Time in min	Link Down Time in min
2-Dec	18:30:00	N/A	Y-Dipole	Reg Error Fault when from Zero to Peak	Software Changes for this Run	Reg error	50	Non-Physics
2-Dec	18:50:00	N/A	B-Dipole	Reg Error Fault when from Zero to Peak	Software Changes for this Run	Reg error	60	Non-Physics
2-Dec	Mont	N/A	B-Dipole	Low voltage at the UPS output phase connector going to the beamline resistor relay KDOI on the PPN Control Board	Loose Wire Connection	PPN	90	Non-Physics
3-Dec	16:36:00	N/A	B-Dipole	Software Testing	Software Changes for this Run	N/A	N/A	Non-Physics
3-Dec	17:20:48	MS-006	B-Dipole	Software Testing	Software Changes for this Run	N/A	N/A	Non-Physics
3-Dec	17:37:20	MS-007	Y-Dipole	Software Testing	Software Changes for this Run	N/A	N/A	Non-Physics
4-Dec	10:55:08	MS-015	Y-Dipole	Reg Error Fault	Software Changes for this Run	Reg error	N/A	Non-Physics
4-Dec	14:49:56	MS-017	Y-Dipole	Software Testing	Software Changes for this Run	N/A	N/A	Non-Physics
4-Dec	17:20:12	MS-018	B-Dipole	Crashed when trying to bring the Link up using the Recovery program	Software Changes for this Run	Reg error	N/A	Non-Physics
4-Dec	17:30:44	MS-019	B-Dipole	Crate failure was pushed as Tech noticed this supply was stuck in Reg Watchdog during the quench recovery program	Software Changes for this Run	Reg error	N/A	Non-Physics
4-Dec	18:09:44	MS-020	B-Dipole	Crate failure was pushed as Tech noticed this supply was stuck in Reg Watchdog during the quench recovery program	Software Changes for this Run	Reg error	130	Non-Physics
5-Dec	10:21:20	MS-027	B-Dipole	Crate failure was pushed as Tech noticed this supply was stuck in Reg Watchdog during the quench recovery program	Software Changes for this Run	N/A	N/A	Non-Physics
5-Dec	16:06:08	MS-030	Y-Dipole	Maintenance	Software Changes for this Run	N/A	N/A	Non-Physics
6-Dec	14:10:20	MS-036	Y-Dipole	Maintenance	Software Changes for this Run	N/A	N/A	Non-Physics
7-Dec	6:13:52	MS-037	B-Dipole	Regulator Error	Software Changes for this Run	N/A	N/A	Non-Physics
7-Dec	1:28:20	MS-038	B-Dipole	Regulator Error	Reg Error	N/A	N/A	Non-Physics
8-Dec	18:12:12	MS-041	Y-Dipole	CC Shaver open on the Ramp Supply positive sense wire	Loose Wire Connection	Beam Connector	30	Non-Physics
9-Dec	9:47:28	MS-044	Y-Dipole	Maintenance	Software Changes for this Run	N/A	60	Non-Physics
9-Dec	9:41:31	MS-044	Y-Dipole	Power supply caused a ground current fault while being ramped to zero by the blue recovery tape	Tighten Wires	N/A	62	Non-Physics
13-Dec	20:38:04	MS-054	Y-Dipole	Power supply caused a ground current fault while being ramped to zero by the blue recovery tape	Ground Current	GF1	83	Non-Physics
13-Dec	23:25:12	MS-056	B-Dipole	Blue main dipole, PPN fault during the down ramp to zero current. Carl is working on the conditions to prevent this.	PPN Fault	PPN Fault	40	Non-Physics
16-Dec	9:24:20	MS-058	B-Dipole	PS Reg Error Fault during the recovery script	Reg Error	Reg error	21	Non-Physics
16-Dec	10:18:32	MS-059	Y-Dipole	Ground current fault while ramping down from Peak to Zero. Large voltage spike seen at this time with ground current spikes all before Trips on the positioners.	GF1	Ground Current	18	Non-Physics
17-Dec	16:15:00	MS-064	B-Dipole	Recovering from Maintenance, Regulator Error	Maintenance	Reg Error	N/A	Non-Physics
21-Dec	12:00:20	MS-077	Y-Dipole	While ramping to Injection, the Bi-soft quench detector tripped. George says the Main Quad PS went into some level of oscillations	Oscillation	Oscillation		Non-Physics
22-Dec	2:53:48	MS-083	Y-Dipole	PPN and PPN2 Faults. Later in the evening (17:15) some day with down time available, maintenance was performed to tighten positive sense wire connections.	PPN Fault	PPN Fault		Non-Physics
22-Dec	12:03:04	MS-083	B-Dipole	Recovering from Maintenance, Regulator Watchdog	Maintenance	Reg Error	N/A	Non-Physics
22-Dec	23:32:48	MS-082	Y-Dipole	PPN1 and PPN2 Faults	PPN Fault	PPN Fault		Non-Physics
24-Dec	2:11:52	MS-086	Y-Dipole	Current Glitch on the main caused the Bi-soft quench detector to trip.	Current Glitch			Non-Physics
24-Dec	9:06:48	MS-089	Y-Dipole	Current Glitch on the main caused the Bi-soft quench detector to trip.	Current Glitch			Non-Physics
24-Dec	18:46:28	MS-090	Y-Dipole	Current Glitch on the main caused the Bi-soft quench detector to trip.	Current Glitch			Non-Physics
24-Dec	22:21:24	MS-092	Y-Dipole	Current Glitch on the main caused the Bi-soft quench detector to trip.	Current Glitch			Non-Physics
25-Dec	0:52:56	MS-093	Y-Dipole	Current Glitch on the main caused the Bi-soft quench detector to trip.	Current Glitch			Non-Physics
25-Dec	18:46:36	MS-097	Y-Dipole	Current Glitch on the main caused the Bi-soft quench detector to trip.	Current Glitch			Non-Physics
28-Dec	21:15:00	MS-103	B-Dipole	Power Dip caused all 4 Phase Lock Loops in the main to lose lock and required help by Carl	Phase Lock Loop Fault			Non-Physics
28-Dec	13:32:04	MS-106	B-Dipole	Recovering from Maintenance, Regulator Error	Maintenance	Reg Error		Non-Physics
29-Dec	13:59:20	MS-107	B-Dipole	Recovering from Maintenance, Regulator Error	Maintenance	Reg Error		Non-Physics
31-Dec	4:57:32	MS-109	Y-Dipole	Yellow Main Quad PS PPN1 and PPN2 Faults during the ramp up from Injection to Beam. Triggered a HEP alarm	PPN Fault	PPN Fault		Non-Physics
1-Jan	7:06:32	PR-001	Y-Dipole	Link pulled by TO Ground Current Trip. Postmenum shows ground current on the power supply and quench grounds. I don't understand the current on the quench ground. I watched the ground currents during the next ramp. They looked good. I will have to watch this, may manifest some points in the ground on the next maintenance day. CS	GF1	Ground Current	0	40
3-Jan	8:52:20	PR-005	Y-Dipole	Yellow quench link trip was caused by yellow main dipole ps. The ps had a ground fault. The ground fault was caused by the positive quench protection crowbar SCR suddenly conducting. CS	GF1	Ground Current	0	204
3-Jan	8:52:24	PR-006	B-Dipole	Blue quench link trip was caused by blue main dipole ps. The ps had a ground fault. The ground fault was caused by the positive quench protection crowbar SCR suddenly conducting. This caused a sudden decrease in the ramp module current. This is the first time I have seen this fault on the blue ps. CS	GF1	Ground Current	0	28
3-Jan	16:16:44	PR-007	Y-Dipole	Yellow quench link trip was caused by yellow main dipole ps. The ps had a PPN1 fault and PPN2 fault. CS	PPN Fault	PPN Fault	0	24
4-Jan	9:06:32	PR-010	Y-Dipole	Yellow main dipole ps had p1 and p12 faults. CS	PPN Fault	PPN Fault	0	36
4-Jan	15:46:56	PR-011	Y-Dipole	Yellow dipole main tripped the link on ground current fault. CS	GF1	Ground Current	0	87
4-Jan	15:47:00	PR-012	B-Dipole	The blue dipole ground current trip was caused by both positive and negative quench protection crowbar SCR turning on. CS	GF1	Ground Current	0	37
5-Jan	7:11:04	PR-013	Y-Dipole	Yellow quench link trip was caused by yellow main dipole p.s. The p.s. had a ground fault. The ground fault was caused by the positive quench protection crowbar SCR turning on. CS	GF1	Ground Current	0	18
5-Jan	18:28:44	PR-016	Y-Dipole	The Yellow Dipole was instrumented to gain some understanding of the ground current trips that have been occurring. Data will be automatically collected on time B trips of the Yellow Dipole. Points were also brought out on the Blue Dipole, but have not been previously mentioned. This trip was deliberate and tested the data acquisition system. CS	Instrumentation Added	None	0	0
6-Jan	11:12:24	PR-019	Y-Dipole	The yellow quench link trip at 11:12:25.26 is not recorded in the log. This trip was caused by a dip in the current signal of the yellow main quad p.s. Carl S. was investigating something in the Output Circuit Component at the time and inadvertently caused the current signal to change. CS	Current Signal Dip	None	0	102
6-Jan	20:06:20	PR-021	Y-Dipole	Yellow quench link trip was caused by yellow main dipole ps. The ps had a ground fault. The ground fault was caused by the positive quench protection crowbar SCR suddenly conducting. CS	GF1	Ground Current	0	24
8-Jan	2:44:56	PR-029	Y-Dipole	The yellow quench link recovery did not bring up the yellow main quad again when the script was utilized at 0243. Carl was contacted and he had to send the next command to the yellow main quad. CS	Did not Reset	None	0	0
12-Jan	0:01:04	PR-035	Y-Dipole	This GLQ was due to the yellow main dipole. The PET page showed that the beam had indicated a Out Cur 2 fault. The Postmenum plot for the yellow beam is below. This was not a Beam induced event. The beam had been aborted several minutes before the main tripped. One had to reset the beam between dumping the beam and ramping. CS	Out Current 2 Fault	Out Current 2 Fault	0	23
22-Jan	15:56:27	PR-058	B-Dipole	The Blue Dipole tripped on an overcurrent on OCC SCR 1-1. The channel measured 20% higher than the other channels in the bank at fault current. It was determined it was a dipole error. The channel was recalibrated. The channel will be examined at the next maintenance day to determine the ultimate cause. CS	Current Monitor	Current Monitor	60	80
3-Mar	5:44:48	PR-118	Y-Dipole	Yellow quench link trip was caused by the yellow main quad p.s. The p.s. had a regulator error fault. The permit link tripped after the quench link. CS	Reg Error	Reg error	0	63
3-Mar	6:19:08	PR-119	Y-Dipole	Yellow quench link trip was caused by the yellow main quad p.s. The p.s. had a regulator error fault. The permit link tripped after the quench link. CS	Reg Error	Reg error	0	Start of Maint
3-Mar	Mant	PR-118 and PR-119	Both	16-01 Maintenance day activities on the RWMPD included checking instrumentation on the Blue Dipole and investigation of the Yellow Quad Reg/Tr trips at 6:45 and 6:19 this morning. The higher trips occurred when the yellow quad was switching from flattop to ramp power modules during the upramp. This type of fault has not been seen before. The regulator channels were seen when software to investigate the problem was loaded. After the user the problem could not be reproduced. CS	Maintenance	Reg error	0	0
11-Mar	9:55:12	PR-128	Y-Dipole	The yellow quench link trip was caused by the yellow main quad p.s. whereas a regulator error fault had occurred. The permit link tripped 0.031 seconds after the quench link. CS	Reg Error	Reg error	0	20

				14:31:48 first x, Terts replaced the Ramp Digital Firing Card. 15:40:08 second x, Carl was notified. And also at 17:41:58 third time. The problem with the Yellow Quasi Ramp Power Module was a loose AC wire feeding the SCR gas glow driver boards. During the course of the troubleshooting a spare firing spare board was installed in the regulator for the Yellow Quasi. This board had a bent pin the prevented it from operating properly. After fixing these two problems a hydraulic ramp was run. CS				
12-Mar	14:31:48	PR-131, 132	Y-Quasi	Loose Wire Connection	Reg error	250	250	
22-Mar	6:28:32	PR-146	B-Quasi	Blue quench link trip was caused by the blue main dipole p.s. The p.s. had a PFN1 Fault and a PFN2 Fault. The permit link tripped after the quench link. Quench	PFN Fault		20	
22-Mar	11:06:48	PR-144	B-Quasi	4th time B QLI Called Carl about a curr moon indication for the blue main quad. Beam dropped clearly and the magnets quenched during this QLI. jak Carl adjusted the current trip point for SCR26 jak	Current Monitor		42	
23-Mar	6:28:32	PR-146	B-Quasi	Blue quench link trip was caused by the blue main dipole p.s. The p.s. had a PFN1 Fault and a PFN2 Fault. The permit link tripped after the quench link. Quench	PFN Fault	PFN1 Fault, PFN2 Fault	20	
5-Apr	5:35:08	PR-162	B-Quasi	The quench link was pulled due to a quench detector at 10-opt that picked up the Blue Main Dipole Power Supply as it had gone into oscillation when switching from Flat Top Current to Ramp Current. There was no beam in the machine at the time. A large spike on the dipole trace seen at 8120204, AD7 exceeded max limits. This is not a real magnet quench. Cause: Blue Main Dipole Power Supply. Oscillation. G. Heyner	Oscillation		20	
9-Apr	5:04:16	PR-166	B-Quasi	Blue quench link trip was caused by 10-opt quench detector. The voltage signals going into the quench detector were not normal due to the blue main dipole power supply oscillating. On the down ramp the ps started to oscillate when it switch from the flat top power module to the ramp power module. Carl S. is investigating this. Quench	Oscillation		21	
10-Apr	3:58:00	PR-168	Y-Quasi	Yellow quench link trip was caused by the yellow 6-KA Quench Protection Switch. The switch was turned off by the quench recovery program. The quench recovery program was not run because the yellow main Quad p.s. did not come up to current. Carl S. should be contacted to investigate this. Quench	Y-Quasi did not turn On during a recovery Script. See 13-Apr at 4:00:44 PR-171 for Fig.	Reg Off	30	
10-Apr	7:41:32	PR-170	Y-Quasi	Yellow quench link trip was caused by the yellow 6-KA Quench Protection Switch. The switch was turned off by the quench recovery program. The quench recovery program was not run because the yellow main quad p.s. did not come up to current. Carl S. should be contacted to investigate this. Quench	Y-Quasi did not turn On during a recovery Script (see 13-Apr at 4:00:44 PR-171 for Fig.)	Reg Off	30	
13-Apr	4:00:44	PR-171	Y-Quasi	The Yellow Main Quasi power supply would not come back on after this Quench Event. Four tries to the TAPE script was required before bringing the yellow link back up. Carl was called at home and found the problem as described here: 5:39 The PLC program for the YQ was completed. I checked the program and reloaded it. Carl Schellhess	PLC Program Completed and was reloaded by Carl.	PLC Program Completed	52	
14-Apr	2:54:40	PR-174	Y-Quasi	C. Schellhess was contacted after the Yellow beam energy matching at injection was found to gradually be getting worse since sometime during the day on Tuesday. Carl found that the y-beam DOCT reading has been dropping gradually over the last few samples. He and R. D'Amico swapped out the DOCT electronics and tightened the head connectors on the DOCT. The DOCT reading is now back to where it was before any abnormal activity was observed this week (Monday 8:18:00).	DOCT Electronics	Many	71	
14-Apr	3:13:40	PR-175	B-Quasi	C. Schellhess working on the Yellow Main Dipole (PR-174), accidentally tripped the Blue.	Carl accidentally tripped blue	DOCT Reg	42	
14-Apr	12:40:28	PR-176	Y-Quasi	DOCT Reg Error for the Yellow Main Dipole Power Supply, the Main Voltage initially shot up approximately 40 volts, current signal on Opticon showed several spikes before dropping tripping off. All this pulled all 13 Yellow Quench Detectors, tripping the link. G. Heyner	Yellow Main Dipole Power Supply, DOCT Reg Error	DOCT Reg	120	
14-Apr	19:46:56	PR-176	Y-Quasi	Carl switched over to regulate off of the redundant DOCT for the yellow dipole main p.s. He said there is a problem with it, he will go back to the original DOCT but he has installed new connectors for it and will install a new electronics module for it. Don't know	Yellow Main Dipole Power Supply, DOCT Maintenance Related		28	
14-Apr	20:19:36	PR-179	Y-Quasi	Dropped the link to restore the DOCT's. The Holic unit was showing a lot of noise (100mV pk to pk at 40 Hz). The regulator is now using a third Denishuk electronics unit. The redundant DOCT read back in not working properly, it will be fixed at the next maintenance day. CS	Yellow Main Dipole Power Supply, DOCT Maintenance Related. April 12, 2004 Further investigation of the original DOCT Bandy Connector from the DOCT Module at the DC Bus bars that was replaced showed that the "Pre-IP" had no longer spring tension to secure the mating pins. G. Heyner		45	
18-Apr	11:37:32	PR-184	Y-Quasi	Several voltage trips around the ring have alarmed (13a, 13b, 12a, 12b, 20a, and 20b occurred while we were ramping down, so no beam was in the machine. This is a typical signature of a yellow main problem. Liability is contacting Carl Schellhess to investigate, and he's ramping after main had down to zero. DLS, Kasper, A.H., Lohy Yellow quench link trip was caused by 11b-qd1 quench detector. The quench detector tripped because of a continuous current signal from the yellow main quad power supply. Quench	Yellow Main Quasi Power Supply, Regulation Problems during the down ramp. Carl sent the Regulation to the internet		65	
28-Apr	14:56:40	PR-200	Y-Quasi	Testing of Fast Ramps for High Energy Gold Run for next year. The coefficients for the ramps had to be changed as they are currently not for the Planned Power Beam. Not a real quench. G. Heyner	Maintenance Testing of Fast Ramps	Reg error	0	
29-Apr	14:56:40	PR-200	B-Quasi	Testing of Fast Ramps for High Energy Gold Run for next year. The coefficients for the ramps had to be changed as they are currently not for the Planned Power Beam. Not a real quench. G. Heyner	Maintenance Testing of Fast Ramps	Reg error	0	
Time Totals:						1297	5423	

Prepared by Gregory P. Heppner

Date		Time In	Section ID	Initial Analysis Performed	Fault Cause	Fault ID	Tech Time in minutes	Link Down Time in min.
4-Dec	13:10:44		B10DQPSW	The Main Contactor was found to be stuck in the closed position. A loose connection found near the PLC was cleaned and found not to be the problem.	A 110vdc trip coil that triggers the main contactor open, failed and was replaced.	Electric Safety Fault, PFN Voltage High, Contactor Fault, Thermal Fault, Over Current Fault, UPS Fault (06-10a-pc3)	225	Non-Physics
5-Dec	1:05:52		V10DQPSW	UPS fault. The UPS checked okay by CAS so it appeared to be the PLC interface card in the UPS. CAS investigated for wiring and found the +12V missing on the V10DQPSW quench switch. Wiring disconnected the fuse that was removed for electrical LOTO yesterday in 1010 was improperly installed. He removed it, inspected it, and reinstalled it properly.	Severe Fuse Comment by Physicist: 13-08. Note that fuses were removed and reinstalled by CAS in 1010 at 5 AM today. We should make sure that this was done correctly or whether it needs better instructions. TR: Later, it was known that CAS did not remove the fuse in question and that it may not have been properly installed from the beginning and (that finding) in 1010.	UPS Fault	347	Non-Physics
5-Dec	11:59:08		V10DQPSW	Routine Maintenance to tighten wires, clean PLC card contacts and inspect of same.	Reapplied wires into PLC as needed.	N/A	N/A	Non-Physics
5-Dec	11:59:08		V10DQPSW	Routine Maintenance to tighten wires, clean PLC card contacts and inspect of same.	Reapplied wires into PLC as needed.	N/A	N/A	Non-Physics
5-Dec	11:59:08		B6DQPSW	Routine Maintenance to tighten wires, clean PLC card contacts and inspect of same.	Reapplied wires into PLC as needed.	N/A	N/A	Non-Physics
5-Dec	11:59:08		B10DQPSW	Routine Maintenance to tighten wires, clean PLC card contacts and inspect of same.	Reapplied wires into PLC as needed. Found Fuse Holder F10 to have a loose contact connection. No Spares available being replaced with a standard type fuse holder with pig tails for connector.	N/A	N/A	Non-Physics
18-Feb	Maint.		ALL	Routine Maintenance, check of Dump Resistor Bolts.		N/A	N/A	Non-Physics
20-Apr	15:49:36		B6DQPSW	After several years, found that the B10DQPSW had indeed indicated OTC and that there was a fuse's battery that Light indicator on the UPS-3000 that supplies the emergency power to the coils. Also found the same UPS condition on V10DQPSW except the battery (B-107) below that further installed on 1448 Recovery failed on the first attempt. Wiring Loose determined that an Over Current fault had occurred on the New Quench Switches located in Building 1010A, requires a manual reset at the switch itself. We waited as George Giamis began to troubleshoot why there had been an Over current and the Permission for the Quench Switches (the MFR L402 before for details) G. Hajjari.	After quench trip coil was covered by a fuse of power to the MFR, the quench protection switch. We believe the UPS for this switch had a bad history and when the UPS was doing a self-check, it could not supply power to the switch and this caused the switch to open and to show a fault. Casati	OVC	120	190
Time Totals:							480	190

UPS Battery Replacement that was required during Physics fy04 Run

Date	J-ident	MFG Part Number	Qty Replaced	Technical Notes
20-Apr	B9DQPSW	RBC11	2	Upon investigation, found that the B9DQPSW had indeed indicated OVC and that there was also a Battery Fail Light indication on the UPS-3000 that supplies the uninterrupted power to the rack. Also found the same UPS condition for Y10DQPSW existed (See Yellow PR-187 below) but yellow remained on. TAPE Recovery failed on the first attempt, Wing Louie informed that an Over Current Fault for any of the four Quench Switches located in building 1010A requires a manual reset at the switch itself. We waited as George Ganets began to Analyze why there had been no Data stored on the Postmortems for the Quench Switches. (See MCR LOG below for details)G. Heppner blue quench link trip was caused by a loss of power to the 99.6K Amp quench protection switch. We believe the UPS for this switch had a bad battery and when the UPS was doing a self-check, it could not supply power to the switch and this caused the switch to open and to show a fault. Ganets
22-Apr	Y10DQPSW	RBC11	2	yellow link trip was caused by a loss of power to the y9 6K Amp quench protection switch. We turned off the UPS to do a self-check on the battery. This battery is marginal and will have to be replaced within the next couple of days. Ganets Yellow Link was tripped to replace the UPS Batteries for the Y10DQPSW Quench Switch in building 1010A. (Reference to April 20, 2004, QLI for Yellow 10a-ps3.B @ 17:16) Heppner

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Time Totals:	80	473
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